*Case Report*

# Successful Management of Dystocia Due to Fetal Ascites and Incomplete Cervical Dilatation in a Murrah Buffalo

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**Abstract**

*The present communication reports a rare case of dystocia due to ascitic fetus in posterior presentation with incomplete cervix dilatation in a primiparous Murrah buffalo. Dead fetus was delivered per vaginally after cervix dilatation with combined effect of intramuscular injections of valethemate bromide, cloprostenol and estradiol benzoate and cervix massage with valethemate bromide diluted in normal saline followed by foetal abdominal puncture and forced extraction of the fetus.*

**Key words:** Ascitic Foetus, Cystic Kidney, Dystocia, Murrah Buffalo, Primiparous

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## Introduction

Foetal ascites is seen as an occasional cause of dystocia in many species but occurs most often in the cow (Roberts *et al.*, 1971). The reason behind ascites may be excessive production or improper excretion of peritoneal fluid which may be due to peritonitis or obstruction of the lymphatic system (Sloss and Duffy, 1980). Incomplete cervical dilation is an important cause of maternal dystocia. In cows and buffalo the cervix is relatively more cartilaginous and severe dystocia can result if dilatation is not proper. In cows, out of all cases of dystocia 17% are of cervical origin (Wehrend *et al.*, 2004*)* but the dystocia of cervical origin is rare in buffalo. Although cervix functions as an important physical barrier to protect the fetus during pregnancy, it has to be sufficiently dilated at the time of parturition for easy vaginal delivery. Ascitic foetus

in full term pregnancy may cause dystocia in cows (Arthur *et al.*, 1996). The incidence of this condition in buffaloes is rarely reported. A case of dystocia due to foetal ascites and incomplete cervix dilation in a Murrah buffalo is reported here.

**Case History and Clinical Examination**

A four-year-old, nine-month pregnant Murrah buffalo in its first parity was brought to Veterinary Clinical Complex, LUVAS - Hisar with the history of active labour signs since morning. The animal was active; history also revealed that the amniotic bag had already ruptured and foetal parts i.e. both the hind legs projected outside thorough vulva. Traction on both the hind limbs was by local vets but in vain. Per vaginal examination revealed that cervix was incompletely dilated and soft. The foetal presentation, position and posture was posterior longitudinal, dorso-sacral and extended hind limbs, respectively. The foetal abdomen was enlarged and filled with fluid. The case was diagnosed as incomplete cervix dilation with foetal ascites.

**Treatment and Discussion**

It was decided to dilate cervix by injecting intramuscularly valethemate bromide - 100mg (Epidosin-10ml), cloprostenol- 500mg (Vetmate – 2ml) and estradiol benzoate - 2mg (Pregheat – 2ml). The Cervix was also massaged manually with valethemate bromide (10ml) dissolved in luke warm 500ml normal saline solution for 10 minutes. After 30 minutes it was observed that cervix was dilated. Epidural anaesthesia was administered using two percent lignocaine hydrochloride (4ml) in first inter coccygeal space. With an eyehook, a puncture was made in the abdominal wall of dead foetus, which resulted in drainage of large amount of straw yellow coloured fluid. About 20 to 25 liters of fluid escaped from the foetal abdomen. Thereafter, the dead male foetus (Fig. 1) was delivered per vaginum by simple traction.

**Fig. 1:** Image showing delivered ascitic foetus

**Fig. 2:** Image showing distended foetal rumen with fluid

Post obstetrically the dam was administered with intravenous DNS 3 liters, calcium borogluconate 450 ml (Mifex), oxytocin 50 IU (Pitocin) diluted in 1litre NSS, 1litre metronidazole (Metrozyl) intravenously and cefaperazone plus salbactum 4.5 g (P-zone Forte), ascorbic acid 30ml (Life C), Methyl cobalamine – 10 ml





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(Neurokind) and Dexamethasone - 10ml (Dexona) intramuscularly, syrup - utronix- 200ml orally/day for 5days, bolus cleanex- 8 intrauterine for five days .

On examination, the foetus was comparatively small with distended abdomen. The foetal abdomen was incised and internal organs were examined grossly and also sent for histopathological examination. Rumen was distended and filled with clear fluid (Fig. 2). Both kidneys of the foetus were enlarged. Cut surface of the kidneys revealed variable sized cysts in the medullary region (Fig. 3). Histopathological examination of kidneys revealed thickening of renal capsule, proliferation of fibrous connective tissue in the interstitial space in cortex (Fig. 4) as well as medulla in focal areas. At places, some of the glomeruli were shrunken and showed increased Bowman's space (Fig. 4).

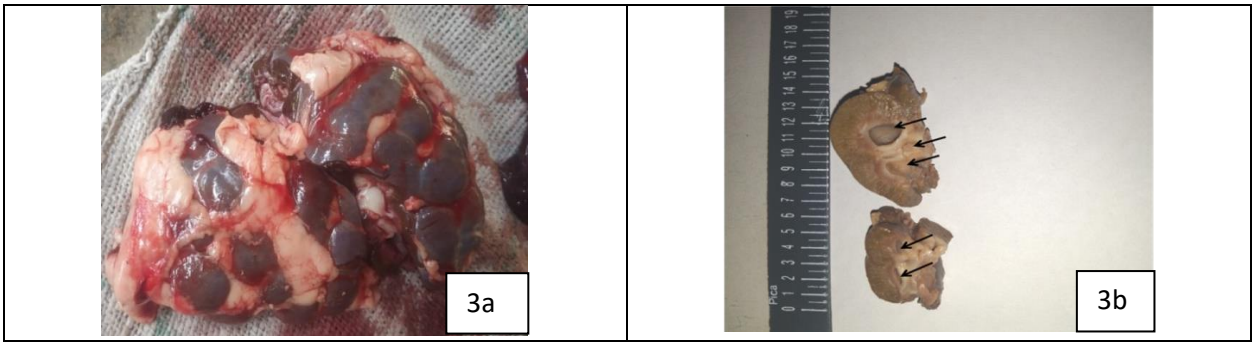


**Fig. 3:** Enlarged foetal kidneys (3a) and cut surface of foetal kidney showing variable sized cysts in medulla (arrows) (3b).

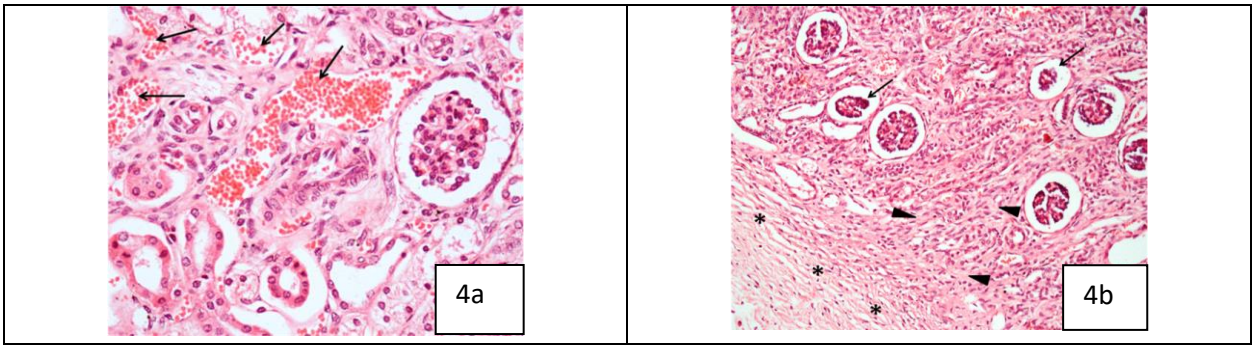


**Fig. 4:** Microphotograph of foetal kidney showing congestion in cortex (arrows) H&E ×400 (4a) and microphotograph of foetal kidney showing thickened renal capsule (asterisks), proliferation of fibrous connective tissue in the interstitial space in cortex (arrow heads), increased Bowman's space and shrunken glomeruli (arrows) H&E×200 (4b).

Blood vessels in the cortex as well as medulla revealed marked congestion (Fig. 4 and 5). Haemorrhages were mainly noticed in medullary region. Degenerative changes were observed in the medullary tubular epithelial cells characterized by vacuolations in cytoplasm (Fig. 5). Degenerative changes in the kidneys resulted in to loss of kidney function might be the reason for accumulation of the fluid in abdominal cavity i.e. development of ascites. Grossly, liver was enlarged and cystic (Fig. 6). Microscopically, the sections of





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lungs revealed diffused congestion, haemorrhages and oedema in focal areas (Fig. 7). The sections of heart revealed marked congestion (Fig. 8) and haemorrhages in focal areas. Histopathology revealed that hemorrhages were there in almost all the organs that indicate impaired blood circulation. Foetal membranes were removed manually on next day and buffalo was discharged giving supportive treatment for five days and dam recovered successfully.

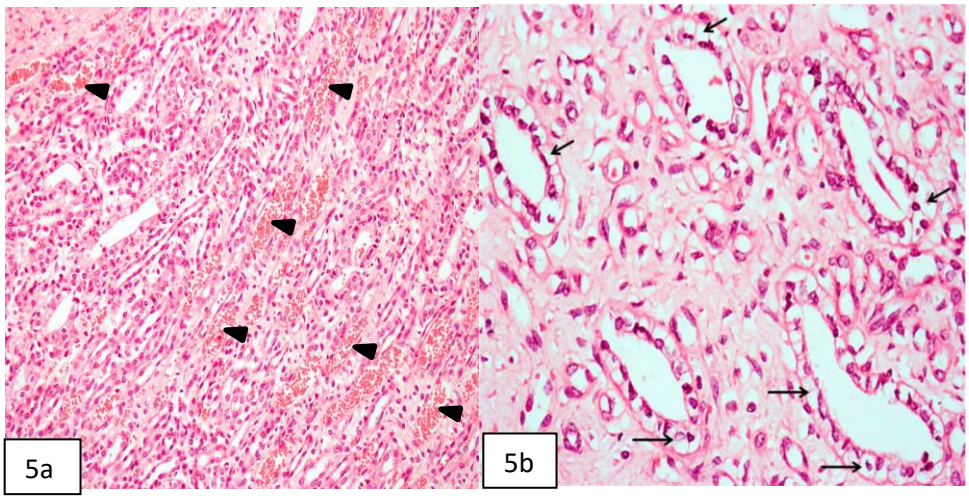


**Fig. 5:** Microphotograph of foetal kidney showing marked congestion in medulla (arrow heads) H&E×200 (5a) and Microphotograph of foetal kidney showing degenerative changes in the medullary tubular epithelial cells characterized by vacuolations in cytoplasm (arrows) H&E ×400 (5b).

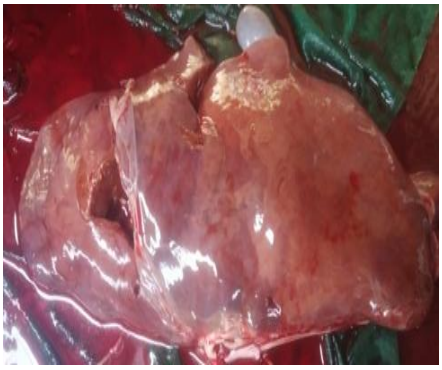

**Fig. 6:** Image showing enlarged cystic liver

The foetal ascites is associated with the dropsical condition of the uterus, mesothelimas of the foetal abdomen and brucellosis (Roberts *et al., 1971*). Fetal ascites with posterior presentation has been reported in buffalo (Selvaraju *et al., 2009* and Prasad *et al.,* 2011) and in a Holstein Frisean cow (Kumaresan *et al.,* 2013).





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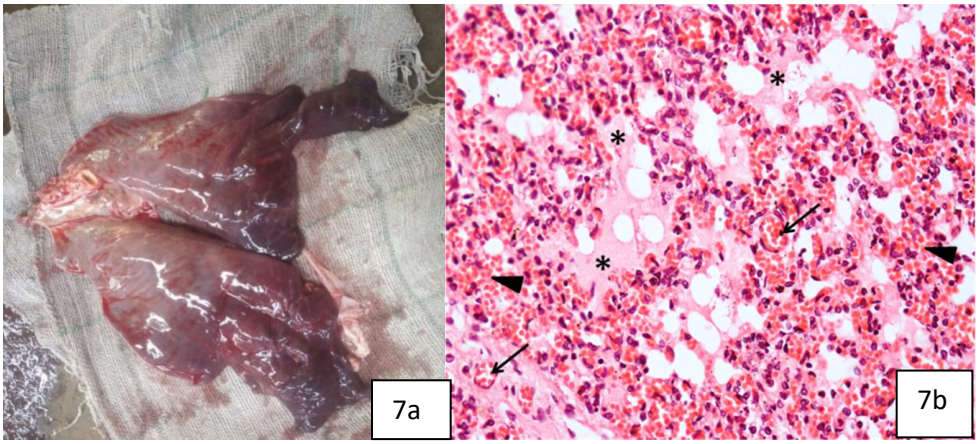


**Fig. 7:** Image showing gross and histopathology of congested foetal lungs (7a). Microphotograph of lung showing congestion (arrows), haemorrhages (arrow heads) and oedema (asterisks) H&E ×400 (7b).

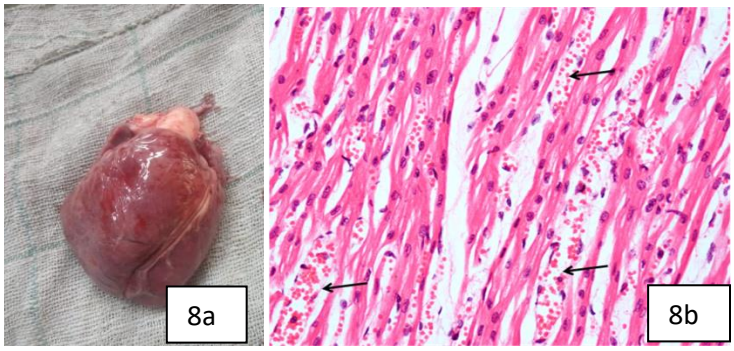


**Fig. 8:** Image showing gross and histopathology of foetal heart (8a). Microphotograph of heart showing marked congestion (arrows) H&E ×400 (8b)

In the present case incomplete cervical dilation and increase in the size of the foetal abdomen due to ascites was the cause of the dystocia. Ascitic condition may be due to cystic condition of kidney or insufficient drainage or over production of peritoneal fluid (Malarkannan *et al.,* 2016). Increase in size of abdomen due to lipomas and ascites in Murrah buffalo have been reported earlier (Singh *et al.,* 2019). Similar cases causing dystocia in two Murrah buffaloes due to foetal ascites has also been reported by Singh *et al. (*2018). It was concluded that ascetic foetus in posterior presentation can be delivered by traction after abdominal puncture with complete dilation of cervix.

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